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One of the most important purposes of a college is the development of the intellectual nature of its students. It appears that US Catholic colleges and fundamentalist Protestant colleges (representing Pentecostal, Baptist, and Lutheran sects) have failed to produce students who possess intellectual attitudes. In the case of the Catholics, students evince traits such as docility, dogmatism, intolerance, and defensiveness. A closed, authoritarian background involving strict Church-family-self relationships may partly account for this restricted and uncreative behavior which leads to a marked lack of scholarly or intellectual productivity. The most intellectual Catholic students, when compared to their classmates of lesser ability, indicate a need for religion, yet are critical of the policies, practices and customs of their faith. Intellectuality among these students may be interpreted as "critical devoutness" as contrasted with a docile acceptance of Catholicism. If this kind of criticism indicates a new trend of self-evaluation among the general Catholic population, colleges may have to replace authoritarian practices with innovative curricula, student personnel services, and professional counseling. (WM)

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DIMENSIONS OF INTELLECTUAL PRODUCTIVITY AMONG SECTARIAN AND NON-SECTARIAN COLLEGE STUDENTS

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Ref.

DIMENSIONS OF INTELLECTUAL PRODUCTIVITY AMONG SECTARIAN AND NON-SECTARIAN COLLEGE STUDENTS

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As counselors and educators we are concerned with the correlates of college success. But success may be defined in many ways. In discussing the relation of the religious factor to college success, I am assuming that success may be interpreted as the accomplishment of the purpose of college, which goes beyond the practical objectives of character formation and vocational training, and includes the development of the highest aspect of man: his intellectual nature.

Now, from the outset we must differentiate between the mentally intelligent and the "truly" intellectual. Intelligence is a matter of capacity and aptitude for retention and learning. Intellectuality is a complex of intense and deep interests in scholarly and cultural pursuits; an openness to and an active seeking out of the mysteries of life.

However, it is this intellectual dimension of man that American Catholic colleges, and presumably a large number of Protestant colleges, apparently have failed to develop. These colleges have produced businessmen, nurses, teachers, engineers, medical doctors and lawyers. But apparently they have generally not produced an intellectual, creative population. The research of Knapp and Greenbaum, (1953), Knapp and Goodrich, (1952), and others which first made this phenomenon empirically evident is now well known, but in this context it may be noteworthy that the most fundamentalist Protestant sects in this country, such as Pentecostals, Baptists and Lutherans, have been found to follow closely the Catholic population in lack of intellectual productivity (Cf. Davis, 1953; Fry, 1933; Roe, 1956). Consequently, there is an indication that conservative or

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fundamentalist religiousness and lack of intellectuality may be interrelated and may issue from similar religio-social conditions.

I shall confine my discussion to these conditions as they pertain to American Catholics, though I expect their reference to many areas of fundamentalist Protestant intellectuality will be apparent. Current research makes evident two prevalent conditions among American Catholics:

1. there is a disproportionate lack of scholarly endeavors emanating from Catholic schools and colleges;
2. Catholic college students and faculty members manifest a disproportionate lack of scholarly attitudes.

Today, scholarly output appears to be dependent upon those potential scholars who enter college. But, Catholics appear vastly underrepresented in college attendance in the first place, regardless of their ability level (Herberg, 1960; Not Enough Catholics, 1959). This has been the case for many years, and apparently times have not changed. In a current longitudinal survey under my co-direction of nearly 10,000 1959 high school graduates across the country, we found that only one-third of the Catholics enrolled in college the year after their graduation compared to nearly one-half of the non-Catholics.

(Table 1 here)

The ratio of college attendance was even lower for those Catholics who graduated from public high school which suggested that a socioeconomic factor might be involved. This possibility was investigated as noted in Table 1

which has been distributed to you.* The public school Catholics consistently attend college least and only in the low socioeconomic category do the Catholic high school graduates attend college at the rate of their non-Catholic peers. (It may be of interest to note that the rate of college attendance of the Protestant high school graduates in our sample was no better than that of the Catholics.)

But what of those students who do graduate from Catholic colleges? No matter what the measure or index, a variety of evidence indicates that Catholic colleges in every case appear inferior to other colleges with respect to the intellectual productivity of their graduates in both the sciences and humanities. This lack of intellectual productivity of Catholic college graduates apparently is shared by those Catholics who do obtain higher degrees and who, therefore, could be expected to make intellectual contributions to scholarship (Astin, 1962; Berelson, 1960; Kenniston, 1957; Lazarsfeld and Thielens, 1958; Rogoff, 1957).

However, the problem appears not to be just a matter of lack of scholarly contribution. An accumulated body of psychological research has probed into the attitudinal set of the Catholic mentality revealing a picture of anti-intellectualism, marked by a show of authoritarianism, dogmatic opinions, lack of creativity, and dislike for ideas and critical thinking. These characteristics have been manifest in a variety of ways and situations, in and out of college, by students and by faculty (Astin and Holland, 1961; Dressel, 1959; Foster, Stanek and Krassowski, 1961; Neel, 1962; Ranck, 1955; Rokeach, 1960).

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*The numbers in the table do not equal 10,000 because of missing socio-economic information. However, the data remain consistent with the total figures just mentioned, and the missing data would only heighten the Catholic--non-Catholic differences in the low socioeconomic level.

However, some of this research was conducted with questionable samples or instruments and inadequate controls for such "contaminating" variables as intelligence and socioeconomic background -- problems which appear to affect Father Greeley's data when considering the generalizations he draws from his data.

Father Greeley (1962a; 1962b) makes a claim for a radically changed situation based upon his secondary analysis of data collected by the National Opinion Research Center (NORC) on Spring, 1961 graduating college seniors. He finds as many Catholic seniors planning to go to graduate school as Protestants, and he states that proportionately as many Catholics are entering college as Protestants. In addition he claims Catholics to be as intellectual as Protestants.

(Table 2 here)

Greeley appears to overgeneralize from restricted data. It is enough simply to look at the non-representativeness of his Catholic college sample compared to statistics from the U. S. Office Directory and Catholic Almanac (Foy, 1961; Office of Education, 1961) found in Table 2.

Greeley claims a broad, national representation for his sample, but it is composed of students exclusively from the Northeast (over-represented by Catholics) and North Central states; that is, the University of Notre Dame, major Jesuit universities and a few women's colleges -- generally large, renowned and atypical Catholic colleges in terms of size of enrollment, religious control and regional distribution. In addition, Greeley appears to have no basis for calling students <u>planning</u> to go to graduate school "scholars." It currently takes a median of eight full-time years or the equivalent beyond the baccalaureate degree to obtain a doctorate, and the doctorate itself is no assurance of scholarship, particularly in the case of Catholics, among whom

there is a disproportionate under-production of research (Berelson, 1960; Lazarsfeld and Thielens, 1958).

Greeley's claim that Catholics enter college at the same rate as others is contradicted by the data just reviewed. His claim that Catholic graduates are comparable to their non-Catholic peers in intellectuality is less than convincing inasmuch as he infers degree of intellectuality solely from the responses to three adjectives which lack both reliability and discriminating power. No reliability or validity data were included in the study. Nor did Greeley reconcile his contention with the fact that there was an over-representation of Catholic graduates in his sample intending to go into the non-scholarly areas of "business" and who generally reported the least interest in the "world of ideas."

Greeley's study is significant, perhaps, in that it shows that among some groups of Catholics there may be a shift toward greater educational endeavor, if this may be inferred from plans to attend graduate school. But this tentative possibility must be considered in a wider context where Catholics appear to be relatively non-intellectual in attitude and to be lacking in scholarly endeavor.

But how did this phenomenon develop? To answer this question perhaps is to reach back through the history of the Church in America and to examine its consequent educational practices. Time allows only a topical enumeration of historical and social conditions I have documented elsewhere,* namely:

1. an immigrant Catholic population which traditionally placed little value on a high level of education;

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*Trent, J. W. The Development of Intellectual Disposition Within Catholic Colleges. Ph. D. Dissertation, University of California, Berkeley, 1964.

2. a population which has shown over-dependency on an autocratic, predominantly Irish clergy;
3. the rapid and firm establishment of an intellectually isolated, ghetto-minded population and ministry;
4. the perpetuation of this anti-intellectual ghettoism through a poorly educated, defensive ministry, operating inadequate schools under a religious spirit often incompatible with intellectual endeavor.

These conditions suggest that the problem of American Catholic intellectuality may not be simply a matter inherent in the Catholic faith, but also, the result of historical and sociological factors, which suggests a theoretical model for understanding this problem. Because of the limitations of time this theory can only be outlined here. A closed Church-family-self system is postulated, a system possibly contaminated by "accidental" (in the Thomistic sense) policies and beliefs which may be confused with the essential ministry of the Church. Through this cohesive system, authority-directed beliefs are fostered, leading to role restriction on the part of the individual and the protective, mental shielding of the individual from exposure to the anxiety-producing intellectual cross-currents of the larger, pluralistic society outside Church and family.

This model provides a framework for exploring certain dynamics of Catholic intellectuality as they may be inferred from my dissertation study of students in five West Coast Catholic colleges compared to students in a neighboring state college, and, in a few instances, in select colleges located across the nation. The basic sample of Catholic and state college freshmen and seniors includes nearly 2,000 students. The Catholic colleges approximate the average,

national enrollment of Catholic colleges, but no claim is made that they are representative of the nation's Catholic colleges. Nevertheless, our discussion so far and the research model following from it suggest that when comparing the Catholic college students to other groups of students, the following phenomena might occur:

1. the Catholic college students registering the highest degree of religiosity, regardless of degree of intellectuality;
2. the Catholic college students manifesting the most authoritarian and the least intellectual of attitudes and interests, regardless of educational status or aspirations;
3. the Catholic college students manifesting the most docility;
4. the most intellectual Catholic college students manifesting the greatest degree of anxiety and least docility.

(Table 3 here)

Table 3 shows the mean scores on the Religious Concepts Inventory and also the Religious Liberalism scale which you will find described among the papers given you. The Religious Concepts Inventory purports to measure the individual's religious orientation on an attitudinal continuum from fundamentalist religious belief (high scores) to fundamentalist disbelief. The Religious Liberalism scale measures the individual's tendency toward religious skepticism or rejection (high scores). The Catholic college students manifest the highest degree of religiosity as measured by the scales at hand when compared to students in a public college and university, Catholic and non-Catholic. The progressive difference among the three Catholic groups varies with the degree of exposure to their Church system inasmuch as over 80 per cent of the Catholic

college students attended parochial high school compared to 43 per cent of the state college Catholics and 23 per cent of the public university Catholics.

(Tables 4 to 7 here)

Tables 4 through 7 show mean scores on five of the "intellective" scales of the Omnibus Personality Inventory described in your data papers. This inventory, termed the OPI, was constructed at the Center for the Study of Higher Education at the University of California, Berkeley, primarily to measure personality traits and attitudes presumably related to scholarly, intellectual endeavors and interests. Although the mean differences on each scale call for individual study, for the moment we will consider the scales together as a "profile" measure of intellectuality, connoting: interest in reflective thought, scientific, critical and objective thinking, intellectual inquisitiveness, tolerance for ambiguity, artistic interests, non-authoritarianism, independence and open-mindedness.

Tables 4 and 5 compare for the sexes separately the OPI "intellective" means obtained by the Catholic college freshmen with those obtained by contemporary public college and university freshmen and freshmen enrolled in three select colleges renowned for the intellectual productivity of their graduates. Table 6 compares the OPI "intellective" means of the Catholic college seniors with those of a contemporary senior class of equal ability level in a private non-sectarian women's college. (Similar data were not available from a private men's college.) Table 7 compares the "intellective" means of those Catholic college seniors who just prior to their graduation expressed plans to attend graduate school with the means of two groups of beginning graduate students planning to obtain Master's degrees. With the exception of the state

college Catholics, and in a few cases an individual scale, the Catholic college students appear the least intellectual in attitude, regardless of the comparison group. That is to say, they show the least interest in ideas, in critical and scientific thinking, in intellectual inquiry and in esthetic matters. They indicate the most dogmatism, intolerance and general authoritarianism. Catholics at the public university score higher on these scales than Catholic college students, but generally not as high as their non-Catholic classmates. Moreover, in data that have not been distributed, the Catholic college students show the least interest in cultural, intellectual and creative activities as manifest by their reading and other leisure activities. The comparative lack of intellectual attitudes expressed in Table 7 by those seniors who by self-report may be considered potential graduate students matched against beginning graduate students may be suggestive of the reason why even those Catholic college graduates who have obtained higher degrees have been found to be under-represented in the community of scholarship, and why there may be some reason to question Father Greeley's use of the term "scholars" in reference to Catholic students planning to attend graduate school.

(Table 8 here)

Table 8 compares the Catholic college freshmen with their senior classmates on yet another OPI scale, the Impulse Expression scale. As you may note among your scale descriptions, very low scores on the Impulse Expression scale are suggestive of acquiescent, restricted, uncreative thinking and behavior; in a word, docility. This analysis has been replicated on a longitudinal basis with over 1500 students attending a number of public, private and Church-related colleges. In all cases the seniors scored higher on the Impulse Expression scale (in a less docile direction) than they did as freshmen by

an average of at least three or four points, with the sole exception of the Catholic college students who scored lower than they did as freshmen.

(Table 9 & 9a here)

The remaining tables examine the responses of the Catholic college students by their level of intellectuality. Intellectuality level was determined on the basis of a composite scale derived from three of the OPI "intellective" scales, the Thinking Introversion, Complexity and Esthetic scales. The three scales were given equal weight in their contribution to the single intellectuality scale; the composite scale was divided into three equal intervals, or levels, from high to low. Table 9 shows the association of both docility and anxiety by intellectuality level among the Catholic college students by sex. On the basis of the Impulse Expression scale, increase of intellectuality is directly related to decrease of docility. The analysis of variance noted in Table 9a indicates considerable statistical significance among these mean differences. The association of lack of docility with increase in intellectuality may thus merit attention in reference to the previous analysis which indicates the association of greater docility with increased exposure to Catholic college education.

The second column of Table 9 shows the Catholic college students' mean Lack of Anxiety scores by sex and intellectuality level. As noted in your description sheet, high scores indicate the least anxiety. The brevity of the 20-item scale may account for the statistical significance of small point differences as seen here. The most highly intellectual of the Catholic college students, as predicted, appear to pay a price for their intellectual openness in terms of increased anxiety. (However, the nature of the scale and its distribution would suggest the advisability of replicating this

analysis with a better measurement of anxiety.)

(Table 10 here)

Finally, turning to data, not included in the tables before you, no essential relationship between the religious factor and level of intellectuality is indicated on the Religious Concepts Inventory and Religious Liberalism scales among the Catholic college students. However, a greater proportion of the most intellectual Catholic college students as compared to their less intellectual classmates report a personal need for religion and that college should emphasize religion more, as noted in Table 10. Yet, they are also more critical of the customs, policies and practices of their religion as noted in the first column of the table which reads simply "customs." Only in the second column do the differences fail to reach statistical significance. Thus, there seems to be evidence that intellectuality among these students is, if anything, positively correlated with religiosity, but the religiosity appears more intellectual in itself: a matter of critical devoutness rather than unquestioning acceptance of religion.

It may be important to note in this context separate analyses of all the data we have been discussing were controlled for ability and socioeconomic differences without in any instance essentially affecting the patterns of the relationships we have just observed.

Remaining, then, is a complex picture which limited time has forced us to view in a rapid and cursory manner. Initially, college success was defined in terms of the purposes of college, one of the most important of which is the development of man's intellectual nature. A general review of research to date suggested that the Catholic Church and certain fundamentalist Protestant sects have been under-represented in intellectual productivity.

Historical and sociological circumstances were sketched suggesting reasons for the current condition of Catholic intellectuality; they formed the basis for outlining a research model which postulated a relatively closed Church-family-self system which has encouraged defensive, isolated, anxiety-avoiding and anti-intellectual attitudes among its membership. It was further postulated that this mentality would not necessarily be found to be inherently a matter of religiosity *per se*, but would be associated with "accidental" values existing within a religious context leading to authoritarian, docile thinking and lack of scholarly, intellectual attitudes, regardless of educational level or aspiration. The observed data which were drawn from five Catholic colleges and a variety of public and private colleges suggested the plausibility of the research model proposed and the phenomena following from it.

If these findings are representative of the rest of the Catholic population, particularly the college-educated population, there may be many implications for school and college counselors and administrators. If their role is to help students toward success as defined in this paper, then much soul-searching and evaluation appears needed. There is evidence that such self-evaluation is taking place among Catholics. It may be in the form of stimulating critical debate; it may be in the form of the broad reformations proposed and initiated by the Sister Formation Movement, or Cultural and Intellectual Commission of the National Catholic Welfare Council; it may be in the form of institutional self-studies, curricular experimentation or increased attention to professional counseling and student personnel services in place of authoritarian disciplinary procedures. If these trends continue, supplemented by more comprehensive and adequate research, then the day may soon come that a paper of this kind will be passé.

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Dimensions of Intellectual Productivity
Among Sectarian and Non-Sectarian College Students

PRESENTATION OF THE DATA

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Table 1. Percentage of 8,275 June, 1959 High School Graduates Who Attended College the Following September by Type of High School, Religion and Socioeconomic Status.

Graduates' pursuits	Socioeconomic status and high school group								
	High SES			Middle SES			Low SES		
	Cath. school students	Pub. school Caths.	Pub. school N-Caths	Cath. school students	Pub. school Caths.	Pub. school N-Caths	Cath. school students	Pub. school Caths	Pub. school N-Caths
(Number)	(133)	(123)	(969)	(539)	(859)	(3,800)	(165)	(409)	(1,278)
College	60	58	78	38	34	48	33	22	30
Other	40	42	22	62	66	52	67	78	70
Total	100	100	100	100	100	100	100	100	100

Source: High School Graduate Study, Center for the Study of Higher Education, University of California, Berkeley

Table 2. Comparison of Greeley's Representation to the National Sample of Catholic Colleges.

Type of college and enrollment	Sample	
	National	Greeley's
Average enrollment	1,363	4,193
Jesuit colleges	13%	44%
Men's colleges	27%	19%
Women's colleges	53%	31%
Coeducational colleges	20%	50%

Source: Office of Education (1961); Davis (1961), Section VIII); Foy (1961). Junior colleges excluded from data.

Data from paper presented at the Annual Convention of the American Personnel and Guidance Association, March, 1964.

Table 3. Comparison of Catholic College, State College and Public University Freshman Mean Religious Concepts Inventory and Religious Liberalism Scores, by Sex*

College groups	Sex	Number	Religious concepts inventory		Religious liberalism	
			Mean	S. D.	Mean	S. D.
Catholic college Catholics	Men	444	36	3.9	7	4.2
	Women	508	37	2.2	5	2.9
State college Catholics	Men	61	34	6.8	10	5.4
	Women	96	35	5.7	9	8.8
State college non-Catholics	Men	53	30	9.5	14	6.5
	Women	113	31	8.5	12	5.0
State university Catholics	Men	165	31	9.1	11	6.3
	Women	107	33	7.5	9	5.8
State university non-Catholics	Men	1,065	25	9.7	16	6.1
	Women	937	27	8.8	14	5.8

*Source of comparative data: Study of Selected Institutions, Center for the Study of Higher Education, University of California, Berkeley. Non-Catholics enrolled in the Catholic colleges have been excluded from this analysis. All critical ratios comparing the Catholic college means to each other mean, by sex, are significant at least at the one per cent level of confidence.

Table 4. Comparison of the Catholic College Male Freshman Mean OPI "Intellective" Scores with Those Obtained by Public and Private College Freshmen*

College groups	No.	Men's OPI "intellective" scores									
		Thinking Introversion		Theoretical Orientation		Complexity		Estheticism		Non-authoritarianism	
		Mean	S. D.	Mean	S. D.	Mean	S. D.	Mean	S. D.	Mean	S. D.
Catholic colleges	492	29	9.3	16	4.4	10	4.1	9	5.2	9	2.6
State college Catholics	62	31	9.1	15+	4.5	11	5.4	11	4.1	9+	2.4
State college non-Catholics	53	33	10.1	18	4.8	11	4.3	11	5.0	10	2.9
State university Catholics	165	34	10.1	20	5.2	11	4.2	10	5.2	10	2.8
State university non-Catholics	1,065	35	9.5	21	4.7	12	4.6	10	5.2	12	2.8
Select private colleges	361	39	9.1	22	4.6	15	4.9	13	5.3	13	3.0

*Source of comparative data: Study of Selected Institutions, Center for the Study of Higher Education, University of California, Berkeley. On the basis of critical ratios, each mean is significantly higher than the corresponding Catholic college mean excepting where signified by a plus mark (+) in reference to the state college Catholics.

Table 5. Comparison of the Catholic College Female Freshman Mean OPI "Intellective" Scores with Those Obtained by Public and Private College Freshmen*

College groups	No.	Women's OPI "intellective" scores									
		Thinking Introversion		Theoretical Orientation		Complexity		Estheticism		Non-Authoritarianism	
		Mean	S. D.	Mean	S. D.	Mean	S.D.	Mean	S. D.	Mean	S. D.
Catholic colleges	561	31	9.2	14	4.6	10	4.4	12	4.5	9	2.6
State college Catholics	96	29+	8.7	13+	4.4	9+	3.8	11+	4.6	8+	2.4
State college non-Catholics	114	32	10.6	14	4.8	11	4.9	13	5.1	11	3.9
State university Catholics	107	35	9.5	17	5.7	11	4.8	13	4.8	11	3.0
State university non-Catholics	937	36	9.4	17.4	5.0	12	4.7	13.2	4.6	12	2.6
Select private colleges	305	43	8.6	21	4.9	15	5.1	16	4.2	13	2.7

*Source of comparative data: Study of Selected Institutions, Center for the Study o Higher Education, University of California, Berkeley. On the basis of critical ratios, each mean is significantly higher than the corresponding Catholic college mean, except ing where signified by a plus mark (+) in reference to the state college Catholics.

Table 6. Comparison of the Mean OPI "Intellective" Scores of the Catholic College Senior Women with Their Senior Contemporaries' in a Private Women's College*

College group and number	Mean OPI "Intellective" scores									
	Thinking Introversion		Theoretical Orientation		Complexity		Estheticism		Non-Authoritarianism	
	Mean	S. D.	Mean	S.D.	Mean	S.D.	Mean	S. D.	Mean	S. D.
Catholic colleges (N = 120)	37	9.7	15	5.0	10	4.4	14	4.4	10	2.6
Private college (N = 97)	42	8.6	20	4.8	13	5.2	16	4.6	13	2.1
C. R. =	4.02**		7.48**		4.52**		3.25**		9.40**	

*Source of comparative data: Center for the Study of Higher Education, University of California, Berkeley.
**p = ‹.01

Table 7. Comparison of the Mean OPI "Intellective" Scores of the Catholic College Seniors Planning to Attend Graduate School with Beginning Graduate Students in a Public and Private Institution.[1]

Graduate student group	No.	Mean OPI "Intellective" scores									
		Thinking Introversion		Theoretical Orientation		Complexity		Estheticism		Non-Authoritarianism	
		Mean	S. D.	Mean	S. D.	Mean	S. D.	Mean	S. D.	Mean	S. D.
Catholic college seniors, planning on grad. school	62	43	7.3	19	4.2	12	4.3	15	5.0	11	2.8
Claremont Graduate school	63	47**	6.5	22**	3.7	14**	4.6	15	4.3	15**	2.8
Public university Education Dept.	38	44	9.6	22**	5.6	14**	5.5	14	5.2	15**	3.0

[1]Source of comparative data: Whiting (1962); Center for the Study of Higher Education, University of California, Berkeley
**p = ‹ .01, mean contrasted with Catholic college seniors'

Table 8. Comparison of the Catholic College Freshmen's and Seniors' Mean OPI Impulse Expression Scores, by Sex.

Class	Men				Women			
	Mean	No.	S. D.	C. R.	Mean	No.	S. D.	C. R.
Freshmen	54	488	16.5	4.12**	42	561	16.4	2.69**
Seniors	46	86	15.9		38	120	13.5	

** $p = < .01$

Table 9. Mean Lack of Anxiety and Impulse Expression Scores of the Catholic College Students by Intellectuality Level and Sex.

Intellectuality level and sex	Scale			
	Impulse Expression		Lack of Anxiety	
	Mean	S. D.	Mean	S. D.
High intellectuality				
Men	63	16.1	11	5.0
Women	50	17.5	11	5.0
Middle intellectuality				
Men	54	16.8	12	4.4
Women	41	15.6	12	4.6
Low intellectuality				
Men	49	15.4	13	4.1
Women	37	13.9	12	4.1

Table 9a. Analysis of Variance of the Catholic College Students' Lack of Anxiety and Impulse Expression Scores by Intellectuality Level and Sex.

Scale	Source	d. f.	Sum of squares	Variance	F	P
Lack of Anxiety	Intellectuality level	2	2.36	1.18	10.98	.0001
	Sex	1	.07	.07	.63	N. S.
	Intellectuality level X Sex	2	.21	.10	.92	N. S.
	Error	1236		.11		
Impulse Expression	Intellectuality level	2	189.13	94.56	64.37	.0001
	Sex	1	242.64	242.64	165.18	.0001
	Intellectuality level X Sex	2	.28	.14	.09	N. S.
	Error	1236		1.46		

Table 10. Percentage of Catholic College Students Expressing Disagreement with and Need for Religion, by Intellectuality Level.

Intellectuality level	Opinion about religion		
	Disagree with Church custom considerably	Need it	Colleges should stress more
High (N=212)	27	73	67
Middle (N=318)	13	68	36
Low (N=332)	11	63	30
Chi-square	32.87**	3.98[1]	28.01**

** p = <.01
[1] = not significant

EXPLANATION OF SELECTED PERSONALITY MEASUREMENTS USED IN THE CATHOLIC COLLEGE STUDY*

1. RELIGIOUS CONCEPTS INVENTORY (RCI) The purpose of this inventory is to gauge religious attitudes as they are actually expressed; that is, in reference to specific religious concepts and feelings, beyond the general response of "favorableness" or "unfavorableness." Through the combined measurement of six sub-scales, the RCI indicates the person's position along a continuum from fundamentalist religious belief through liberalism to fundamentalist disbelief. Validity: Through as yet unpublished research at the Center for the Study of Higher Education, there is repeated evidence that the RCI distinguishes fundamentalist, orthodox, liberally religious and liberally non-religious groups. It also has significantly distinguished two groups evidencing different degrees of religious commitment within a single denomination: the Catholic college women in the present study obtained an RCI mean of 36 compared to a mean of 39 obtained by a group of nearly eighty religious novices (young women beginning their studies in the religious sisterhood). A rank difference correlation of .91 was obtained for fifteen groups of seminarians and various college freshman classes ranked according to their fundamentalist - liberal mean position on the RCI, and a measurement of authoritarianism. Roy (1961) has found religious conservatism measured by the RCI to be highly related to conservatism in artistic taste and conservative, authoritarian beliefs. Reliability: Coefficients computed for various college groups including those in the present study have ranged between .89 and .93 (KR 21).

2. RELIGIOUS LIBERALISM (RL) High scorers indicate skepticism of or a rejection of religious beliefs and practices, particularly those of an orthodox or fundamentalistic nature. 29 items. Validity: Correlates negatively with the AVL Religious scores and the CPI Sense of Well Being, Self-control, Good Impression and Responsibility scores. Correlates with the writer's Religious Concepts Inventory (RCI) and Religious Practices Index (RPI). Reliability: .84 (KR 21); .93 (test-retest).

3. THINKING INTROVERSION (TI) High scorers indicate a liking for abstract, reflective thought and an interest in a variety of areas such as literature, art and music. Low scorers indicate a preference for overt action and the evaluation of ideas for their immediately practical worth. 60 items. Validity: Correlates with the Literary score in the Kuder Preference Schedule, and the Thinking score in the Myers-Briggs Type Indicator, the Understanding score in the Stern Activities Index and with occupations emphasizing ideas rather than practical concerns in the Strong Vocational Interest Blank. Distinguishes graduate students rated highly by their instructors for their "power of assimilation and logic" and "written performance." Reliability: .85 (KR 21); .94 (test-retest).

4. THEORETICAL ORIENTATION (TO) High scorers indicate an interest in science and tendency towards logical, rational and critical thinking. 32 items. Validity: Correlates with the AVL Theoretical scale, the Kuder Science scale and the Myers-Briggs Thinking scale. Distinguishes professional social scientists rated highly for their creativity and originality. Distinguishes university students superior at problem solving which presumably calls for flexibility and adaptability in problem solving. In as yet unpublished data, correlates with critical thinking in the field of social science and scientific reasoning. Reliability: .74 (KR 21); .81 (test-retest).

*Further explanation of all scales excepting the Religious Concepts Inventory may be found in the Manual of the Omnibus Personality Inventory (Center for the Study of Higher Education, 1962); the explanation of the Religious Concepts Inventory may be found in the author's dissertation study.

5. COMPLEXITY (CO) High scorers indicate an orientation towards an experimental rather than a fixed way of viewing and organizing phenomena. High scorers also indicate tolerance for ambiguities and uncertainties, fondness for novel situations and ideas, awareness of subtleties in the environment, a preference for the complex over the simple and a disposition towards the enjoyment of the diverse and ambiguous. 27 items. Validity: Correlates with the AVL Theoretical and Aesthetic measures which distinguish creative individuals. Correlates with the Myers-Briggs Intuition and Perception scales which purport to measure a person's tendency to approach his environment looking for new possibilities with an open, receptive mind. In as yet unpublished data, correlates with critical thinking, particularly in the field of social science. Reliability: .71 (KR 21); .83 (test-retest).

6. ESTHETICISM (Es) High scorers indicate diverse interests in artistic matters, including fine arts, literature and dramatics. 24 items. Validity: Correlates with the AVL aesthetic score and the Kuder Literary and Music scores. Distinguishes art and humanities majors. Reliability: .80 (KR 21); .90 (test-retest).

7. NON-AUTHORITARIANISM (NA) This scale derived from the California Authoritarianism (F) scale scores in a non-authoritarian direction. High scorers indicate a sense of independence and freedom from authoritarianism and opinionated thinking. Low scorers, on the contrary, indicate dependent, conventional, rigid, prejudiced, intolerant and emotionally suppressed thinking. 20 items. Validity: Correlates with CPI measures distinguishing achievement through independence, intellectual efficiency, flexibility, and with occupations involving ideas. Correlates negatively with the Strong Vocational Interest Blank business occupations. Distinguishes professional social scientists and graduate students. In as yet unpublished data, correlates with critical thinking. Reliability: Unavailable in the Manual. The coefficient computed separately on the OPI norm group is .39. Comment: The reliability coefficient of the NA scale is relatively low. This is likely due to the small number and heterogeneous nature of the items composing the scale. Test-retest data would likely verify adequate reliability for this scale.

8. IMPULSE EXPRESSION (IE) Measures the extent to which a person tends to express his impulses in overt action or conscious feeling and attitude. High scorers indicate proneness towards imaginative work, an active fantasy life and freedom of thought. Low scorers indicate constricted, moralistic and authoritarian thinking and behavior. 124 items. Validity: Correlates negatively with CPI Responsibility, Socialization and Self-control scales, presumably measurements of social conformity. Correlates positively with the CPI Flexibility scale. Distinguishes students highly rated by instructors for "oral assignment presentation," "written performance," and "overall evaluation." Distinguishes graduate students and prize-winning artists. In as yet unpublished data, correlates with critical thinking. Reliability: .91 (KR 21); .94 (test-retest).

9. LACK OF ANXIETY (LA) This scale forms the twenty best items of the Taylor Manifest Anxiety scale as selected by Bendig (1956). The scoring has been reversed from Bendig's direction, so that high scorers indicate freedom from unusual amounts of anxiety whereas low scorers indicate a high degree of anxiety and neuroticism. 20 items. Validity: High correlation with schizoid tendencies. Moderate correlation with impulse expression and social introversion. Reliability: Unavailable in manual. The coefficient computed on the total sample of Catholic college students is .61 (KR 21).